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CONGENITAL AND ACQUIRED SCLERODERMIA IN CHILDHOOD.

By E. A. Cockayne, D.M., F.R.C.P.,

Assistant Physician to the Middlesex Hospital; Physician to Out-patients, Victoria Hospital for Children, Chelsea.

Scleroderma in children is a rare disease. In a recent thesis entitled "Contribution à l'étude clinique de la sclérodermie chez l'enfant," Alfès has collected references to nearly a hundred cases, but has made no critical analysis of them. Some refer to cases which are not sclerodermia, others to true sclerodermia which began during or after puberty. Much obscurity has been created in the past by a confusion of this disease with sclerema neonatorum, a confusion sometimes of diagnosis, more often of nomenclature. The difficulty has arisen because sclerodermia has been called sclerema adultorum, and sclerema, sclerodermia neonatorum. The two diseases are generally admitted to be quite distinct, and their difference has been strongly emphasised by Ballantyne in his 'Diseases of the Fœtus,' in which he gives a long account of sclerema.

An example of this confusion is a case recorded by Goodell as congenital sclerodermia. Clinically and histologically it was a typical sclerema; Cruse's four cases described as sclerodermia, and tabulated as such by Lewin and Heller in their monograph, are undoubtedly sclerema, as are the cases of Jenks, Weickert, McDowell, and many others.

Barth's case in a child aged 3 months is considered by Neumann to be an example of infantile scurvy, and the clinical description makes this diagnosis a very probable one. Some cases have been described under the name congenital sclerodermia, which are instances of annular or semi-annular fibrous constrictions probably caused by the pressure of amniotic bands or coils of the umbilical cord. These are not very uncommon, and are usually accompanied by other congenital defects. Leprévost has published one case of this nature in a hydrocephalic baby, and Redard a second, which had other developmental defects. But if all these are eliminated there still remain more than a hundred cases in which the disease appeared in children under the age of 14 years.

A true congenital case is described by Haushalter and Spillmann. It occurred in a female infant, and affected the whole of the left leg. The same authors record sclerodactylia in two sisters aged 7 and 2 years respectively, in whom the disease began at 5 and 6 months.

Engelmann met with a girl, aged 7 years, in whom sclerodermia began at the age of 3 months, and spread widely over the face, trunk, and limbs, causing secondary atrophy of the underlying muscles. The affection of the muscles may, however, have been a primary myositis fibrosa. Binz records a case in a boy aged 1½ years, Isambert another in an infant aged 13 months, in which the feet, thighs, buttocks, lumbar region, neck, chin, lips and nose were affected, and which ended fatally.

Dennett gives an account of a most interesting case in a baby girl. She weighed 6 lb. at birth, and three days later became seriously ill with a high temperature. The physician who was called in said her limbs were flexed, and could never be straightened. Dennett saw the child when it was 3 months old; it then weighed 7 lb. 12 oz., showed lack of ossification of the carpal and tarsal bones, and the skin over the greater part of the body was indurated, waxy, yellowish in colour, and moist. The face was partly immobile, and the joints were all fixed in a position of flexion, the fingers looking like those of a case of congenital club-hand. Thus the child had diffuse sclerodermia and sclerodactylia, and the condition was either congenital or acquired at the age of 3 days. Probably it was present at birth. Langmead showed a case before the Section for the Study of Diseases in Children at the Royal Society of Medicine at the age of 8 months, and again a year later. On the first occasion he described it as sclerema, but corrected his diagnosis at the meeting. Diffuse sclerodermia, sclerodactylia, and myositis

fibrosa were present at birth. The face, neck, chest, abdomen, back, the outer aspects of the thighs and the calves, were most affected. The knees and elbows could not be fully extended. The fingers and toes were flexed, and were small and wax-like. Many muscles were sclerosed, including the latissimus dorsi and pectoralis major on both sides. Slight but persistent fever was noticed.

Dennett's and Langmead's cases show a most remarkable resemblance to one of my own, which was shown before the Section for the Study of Diseases in Children and the Dermatological Section of the Royal Society of Medicine. The boy was the first child of healthy parents, and the mother had no illness during her pregnancy. The child was premature, born at the eighth month, and is stated to have weighed only 2½ lb. at birth. At birth the skin lesions were almost as extensive as at the present time, and no swelling was noticed. The fingers were fixed in a flexed position at birth. The hair was abundant at first, but after four months began to fall out, and the child became almost bald. In addition to the induration of the skin, hydrocephalus was present.

When first seen at the age of 7 months the infant showed a typical sclerodermia and sclerodactylia of adult type, with some fibrous myositis. The skin of the abdomen and chest was thick, and difficult to pinch up, and the abdomen showed pigmentation in a reticular pattern. The legs could not be fully extended. The skin was thickened and hard over the outer side of the thighs, round the knees, and over the whole of the lower part of the legs. The toes were fixed in a hammer-toe position, and the nails were atrophic.

The skin of the upper part of both arms was natural, but over the whole of the forearms and hands it was sclerosed. The fingers were firmly fixed in flexion, remarkably small and with the wax-like appearance, described by Langmead; the finger-nails were atrophic. The skin of the scalp was thick and shiny, with a very sparse covering of fine hairs. The veins were much dilated. Eyebrows and eyelashes were almost absent. There was induration of the whole of the skin of the face, with marked atrophy of the lobes of the ears, the alæ nasi, and round the mouth, but the mucous membrane and tongue had escaped. The skin of the back, buttocks, groins, scrotum, and penis was normal. The muscles of the chest, abdomen, and legs were obviously atrophied and fibrous.

I have kept the infant under observation up to the present date, and it is now 2 years and 2 months old. There was a symmetrical increase in the thickening of the skin on the outer aspect of both thighs with slight pyrexia at the age of 11 months, and it

then showed a slightly lobulated appearance. It has since become more atrophied. Some pigmentation has also appeared on the lower part of the back.

The finger-nails still grow very slowly, but all growth ceased in the toe-nails at about four months. Sweating has never been abolished, and is quite evident in the palms of the hands.

The child is very subject to nasal discharge, conjunctivitis and blepharitis, and at the age of 1½ years ulcers of the cornea appeared in both eyes, and on healing left opacities. Nystagmus and inequality of the pupils subsequently developed.

The teeth have not yet begun to appear. It has not been possible to obtain a satisfactory skiagram, but so far as can be seen there is no bony change and no delay in ossification of the carpal bones. Growth has been extremely slow. When first seen the child weighed 9 lb. 4 oz., at 1 year 10 lb. 8 oz., at 1 year and 4 months 11 lb. 2 oz., at 1 year and 11 months 11 lb. 8 oz., and at 2 years 11 lb. 14 oz.

The Wassermann reaction has proved negative. Treatment with mercury was tried for six months, and thyroid extract for a longer period without affecting the course of the disease.

That this, like Dennett's and Langmead's, is a case of sclerodermia it seems scarcely possible to doubt. It is true that the child was premature and undersized, and that the condition was present at birth as in many cases of sclerema. But a sclerema so extensive would almost certainly have proved fatal, the mortality of all cases being about 50 per cent., and even in the event of recovery the skin condition would have cleared up within a few weeks. Only two or three cases are known in which small areas of atrophied skin have remained permanently after sclerema. The distribution is the exact opposite to that usual in sclerema, where the chest and extremities are rarely affected, and the back and buttocks are most commonly and most severely attacked.

When the limbs are affected in sclerema it is almost always the proximal parts which suffer. In my case the skin of the back, buttocks, and the proximal parts of the limbs were the least affected portions, and that of the chest, abdomen, hands, and feet were extremely indurated.

The pigmentation which has occurred is like that commonly seen in adults with sclerodermia.

I have tabulated more than a hundred cases of sclerodermia according to the age of onset and the sex of the patient. This brings out the fact that, as in adults, females are much more commonly affected than males. It is in marked contrast with

sclerema, where the sexes are equally liable. It also demonstrates that the number of cases beginning in the later years of childhood is not very much greater than in the earliest years, though the total number naturally increases with each succeeding year, owing to the chronic nature of the disease.

The commonest form of the disease in childhood is that with isolated plaques or bands of induration. Diffuse sclerodermia with or without sclerodactylia, and sclerodactylia alone, is much rarer.

As in adults the lips and tongue have been affected in a number of cases. Barlow describes one in a boy, aged $3\frac{1}{2}$ years. More than one example of complete hemiatrophy with sclerodermia of the atrophic half of the body has been met with. This condition in a girl, aged 6 years, is figured and described by Dinkler. In fact the variety in the extent and distribution of the disease is almost as great in children as it is in adults. Some of the cases included in the table resemble in their clinical aspect those usually grouped under the term dermato-myositis. This disease is a rare one, and, as is the case in typical sclerodermia, its cause is obscure. In the acute onset and relapses with redness, swelling, and tenderness of the skin and subcutaneous tissue, and in the accompanying fever, it resembles an infective disease. Usually only the superficial portions of those muscles subjacent to the affected skin areas are sclerosed, but in others the whole thickness of the muscles is affected. Occasionally the disease affects much larger areas of skin than of muscle, and in Nixon's and Collier and Wilson's cases the disease of the muscles was much more extensive than that of the skin.

Thibierge and others have shown that sclerosis of the muscles may be a primary condition in sclerodermia, and patches of sclerosis may even be met situated centrally in muscles or superficially in muscles, over which the skin is normal, though more usually the areas of affected skin and muscle coincide. It is possible, as some hold, that in dermatomyositis there is an acute parenchymatous change with œdema of the muscle, and subsequent sclerosis of the same nature as the œdema and sclerosis of the skin in sclerodermia. Dermatomyositis may, in fact, be an unusually acute and extensive sclerodermia. I have seen two of these cases in boys, though comparatively few have been recorded in children. A typical case has been fully described and figured by Batten.

Myositis ossificans, which occasionally affects children, may be merely another manifestation of this disease. The clinical appearance of the initial lesions, firm raised patches, are suggestive of this. The later calcareous deposits in the muscles may be compared to

those sometimes found in the skin in sclerodermia. A very marked instance of the latter has recently been published by Stebbing.

In a somewhat different category from the cases of primary sclerodermia are those sometimes met with in myopathies and spinal paralyses. Angel Money describes three cases in one family under the name, "Chronic infantile sclerema and paralysis." The first, which he did not see, died at the age of 4½ months, and was a female. In the second, induration of the skin and paralysis began at 2 months, and death occurred at 8 months; and in the third the condition appeared at 6 weeks and death took place at 9 months. Both these children were females also.

The paralysis was a flaccid paralysis affecting the proximal parts of the limbs, the neck and back muscles, and the intercostals. There was no reaction to faradism.

One of the children had twitching of the tongue. In one case the brain and medulla were examined microscopically, and in the other the spinal cord, and no lesions were found. The muscles were not examined.

The induration of the skin occurred chiefly over the buttocks, and less on the shoulders and neck. The sclerosed skin showed excess of lymphocytes round the vessels. These cases are considered by Ballantyne to have been true sclerema neonatorum, but the condition appears to have been more probably sclerodermia. The paralysis was presumably due to a myopathy.

I have met with a very similar case in a girl aged 7 months. She was quite strong until 3 weeks old and then gradually became paralysed. When I saw her she had complete flaccid paralysis of the neck, back, and shoulder muscles; in the latter the loss of tone was so great that the shoulders could be pulled right forward on to the front of the chest. The fore-arms could still be moved a little, but the legs were flaccid and immobile, except for some movement of the toes. The intercostal muscles were completely paralysed, but the diaphragm was acting normally. The facial muscles were not obviously affected.

There was no reaction of degeneration in the paralysed muscles, but there was scarcely any reaction to faradism. There were symmetrical patches of indurated skin round both knees and on the lower part of both thighs.

The skin was very thick and hard, unaltered in colour, and did not pit on pressure. There was a slightly lobulated condition appreciable both to sight and touch. Bronchitis was present.

The mother gave the following family history. Her first child

was stillborn ; her second, a boy, aged $4\frac{1}{2}$ years, is healthy ; her third, healthy at birth, developed a flaccid paralysis of the limbs and intercostals at 1 month, and died of pneumonia at 3 months. The condition in this child, according to the description given, exactly resembled that in the one brought to me, though there was a little doubt about the existence of sclerodermia. The fourth child was stillborn, and the fifth was the one brought to me.

Arrangements were made to admit the child into the hospital, but the mother failed to bring it up, and no further communication could be obtained from her. The diagnosis lay between a myopathy and the Werdnig-Hoffmann type of progressive spinal muscular atrophy.

In view of the great resemblance to Angel Money's cases, where the latter disease was excluded, a myopathy with sclerodermia appears to be the most probable cause of the condition. It is noteworthy that all the cases were in girls.

Ballet and Delherm and others have described sclerodermia in association with pseudo-hypertrophic and other muscular dystrophies. It has also been met with in paralysis of spinal origin in adults.

It cannot be said that the cases of sclerodermia in children throw any light on the cause of this obscure disease.

The view that it is a trophoneurosis due to disease of the sympathetic system seems the most satisfactory hypothesis for many of the cases. The prodromal signs and symptoms—erythema, pains, pigmentation, transient attacks of local cutaneous asphyxia—which commonly occur in sclerodermia are in accord with this view, as are the attacks of Raynaud's disease, which often precede sclerodactylia.

The distribution of the skin lesions often corresponds to segmental areas, spinal areas, or to the course of cutaneous nerves. The coincidence of the sclerosis with hemiatrophy of the tongue, of the face, or of the whole body, and the association with organic nervous diseases, such as tabes dorsalis, afford further evidence of nervous origin.

Many cases have been met with in which sclerodermia and disease of the ductless glands have affected the same person. Myxœdema, exophthalmic goitre, and Addison's disease, have all been seen with sclerodermia. In such cases the disease of the skin and the ductless glands are probably both due to a disorder of innervation. The cardiac respiratory and gastric crises associated with sclerodermia can be interpreted most satisfactorily in the same way.

The cases of diffuse sclerodermia with sclerodactylia, and often

accompanied by myositis, are more probably due to a local infection of the skin, or of the skin and muscles.

To this group belong nearly all the cases of primary sclerodermia occurring before birth and in the first two years of life. It is, in fact, the commoner up to the beginning of the period of the second dentition. Whereas in the later years of childhood the majority belong to those which are most likely due to some derangement of the sympathetic system.

Age of onset.	Male.	Female.	Sex not specified.	Total.
Congenital	1	2	—	3
Under 1 yr.	—	8 (2 sclerodactyly)	—	8
1– 2 yrs.	2	—	2	4
2– 3 „	3	2	—	5
3– 4 „	3	1	1	5
4– 5 „	1	4	—	5
5– 6 „	2	2	1	5
6– 7 „	3	4	—	7
7– 8 „	3	9	—	12
8– 9 „	3	3	1	7
9–10 „	1	4	—	5
10–11 „	1	10	—	11
11–12 „	2	6	1	9
12–13 „	2	6	—	8
13–14 „	1	7	—	8
Total	28	68	6	102

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A CASE OF HEMI-HYPERTROPHY WITH POST-MORTEM EXAMINATION.*

By Robert Hutchison, M.D., F.R.C.P.
Physician to the London Hospital, and to the Hospital for Sick Children, Great Ormond Street.

Some years ago I published† an account of a case of hemi-hypertrophy in an infant with a description of the appearances found after death. I have now to report upon another case of the same sort. The patient, a boy aged 5 months, was admitted to hospital for pyelo-nephritis probably due to *B. coli*. He was illegitimate and no accurate family history was obtainable. On examination it was at once evident that the right arm and leg were appreciably larger than the left (Figs. 1 and 2). This was borne out by the following measurements:—Length of right arm from acromion to styloid process 5¼ in., left 4½ in.; circumference of right upper arm 5 in., left 4 in.; circumference of right forearm 5½ in., left 4½ in.; length of right leg from anterior superior spine to external malleolus 11¼ in., left 10½ in.; circumference of right thigh 7½ in., left 6½ in.; right semi-circumference of chest at level of nipples 8½ in., left 8 in.

The right semi-circumference of the abdomen at the level of the

* A communication made to the section for the Study of Disease in Children of the Royal Society of Medicine on March the 24th, 1916.

† British Journal of Children's Diseases, 1904, i, p. 258.

umbilicus was also greater than the left (Fig. 3) but the exact figures do not appear in the notes.

There was no apparent asymmetry of the skull or face.

In the abdomen the kidneys could both be felt greatly enlarged, but otherwise the viscera were normal to examination. The urine

Fig. 1.

was acid and contained pus and a little albumin. The deposit showed large quantities of epithelial cells. The temperature during the few days the child was under observation ranged from 103° F. to 101° F.

The baby went rapidly downhill in spite of treatment by full doses of citrate of potash, and died about ten days after admission.

The following is a summary of the post-mortem examination by Dr. H. M. Turnbull, Pathologist to the London Hospital:—

Descending purulent pyelo-nephritis (Coli bacilli), mucous catarrh of intestines; asymmetrical development of trunk, limbs and paired organs; hypertrophy on right side, with exception of thymus. Markedly enlarged kidneys (right 70·87 grm.) with purulent infiltration in pale cortex and medulla. Pus in both renal pelves.

Fig. 2.

Slight dilatation of right renal pelvis. Dilatation of right ureter (lumen 1·2 cm. in diameter) to within 0·5 cm. of cystic orifice. No narrowing of right cystic orifice.

Hypertrophy with great crenation of right suprarenal body (5 × 3 × 0·5 cm. at thickest, weight 7 grm.).

Left suprarenal (4 × 2·5 × 0·2 cm. at thick margin and less than 0·1 cm. thick in remainder, weight 2·5 grm.).

Three right accessory suprarenal cortical bodies, two with old

hæmorrhage replacing fœtal cortex (each 1·2 cm. in diameter), and one non-hæmorrhagic (0·3 cm. in diameter).

One left accessory suprarenal cortical body (0·5 cm. in diameter) with old hæmorrhage replacing fœtal cortex.

Right undescended testicle (2·2 × 1·3 × 1·2 cm., weight 2·5 grm.) in inguinal canal of congenital hernial sac.

Left testicle (1·5 × 0·9 × 0·5 cm., weight 1·98 grm.) in scrotum.

Right side of tongue 2·2 cm. broad and 1·6 cm. thick; left side 1·9 × 1·2 cm.

Fig. 3.

Right lobe of thyroid 2·2 × 1·3 × 0·5 cm., weight of half isthmus 1 75 grm.

Left lobe of thyroid 2·2 × 1·1 × 0·5 cm., weight of half isthmus 1·66 grm.

Postero-inferior parathyroids: right 0·5 × 0·25 × 0·25 cm.; left 0·15 cm. in diameter. Postero-mesial parathyroids: right 0·2 cm. in diameter; left 0·2 × 0·15 × 0·15 cm. Right faucial tonsil 0·142 grm.; left 0·130 grm.

Right submaxillary salivary gland, 0·870 grm.; left 0·402 grm.

Circumference of lumen of common carotids: right 1·05 cm.; left 1·00 cm. Right lower limb 28·9 cm. long; left 26·35 cm.

Right thigh 15·8 cm. circumference; left 12·9 cm.

Right calf 12·7 cm. circumference; left 10·7 cm.

Right upper limb to styloid 19·85 cm. long; left 18·9 cm.

Right forearm 11·9 cm. circumference; left 10·4 cm.

Right femur 14·3 cm. long; circumference at centre shaft 4·1 cm.; corticalis 0·25 cm. broad.

Left femur 13·2 cm. long; circumference at centre shaft 3·5 cm.; corticalis 0·20 cm. broad. Right posterior border of scapula 5·5 cm. long.

Left posterior border of scapula 4·5 cm. long.

Right thoracic cavity and lung larger, and osseous ribs longer (measurements taken) than left.

Right pinna 4·9 × 2·9 cm.; left 4·9 × 2·6 cm.

Thymus (weight 5 grm.); left lobe 7·4 × 2·2 × 0·4 cm.; right lobe 6·4 × 1·8 × 0·35 grm.; posterior accessory lobe on left side (3 × 1·1 cm.) passing obliquely on to right lobe.

No asymmetry in measurements of lower jaw, skull, orbits, cerebrum or cerebellum; anterior fontanelle patent; no premature closure of sutures of skull; spinal column straight; exomphalos; accessory fissures on posterior surface of liver; foramen ovale patent (0·2 cm. in diameter); umbilical vein and ductus arteriosus closed; no abnormality in metaphyses; commencing eruption of left lower incisor; orbits sunken; wasted child.

Pituitary gland 1·5 × 0·9 × 0·5 cm., weight 0·2 grm.

Heart 34·437 grm., liver 219·712 grm., spleen 14·17 grm.

Brain 694·575 grm., body 64·77 cm. long, weight 4·3659 kilos.

Post-mortem Wassermann reaction negative (Dr. James McIntosh).

Dr. Turnbull is of opinion that the asymmetry in this case was due to a right-sided hypertrophy because of the obvious hypertrophy of the right suprarenal, the left being apparently of normal size. He thought also that the right testicle was abnormally large.

GANGRENE OF THE LEG FOLLOWING DIPHTHERIA.*

By E. B. Gunson, M.D., M.R.C.P., Capt. R.A.M.C.

A boy, aged 6 years, was admitted to the Grove Fever Hospital on January the 5th, 1915, with severe faucial diphtheria on the fourth day of disease. He was given 20,000 units of anti-toxin on admission, and again on the following day. The urine contained a

* The case was shown at the Section for the Study of Diseases in Children of the Royal Society of Medicine on March the 24th, 1916.

thick cloud of albumin and casts. The pulse was regular and of moderate strength. The knee-jerks were feeble. There was a double extensor response.

On the eleventh day the pulse became very feeble, the heart was not enlarged, but liver dulness extended 2 in. below the costal margin. Two days later cardiac dulness extended 2 in. to the right of the middle line, and 1 in. outside the left nipple line. The pulse was regular and of good strength.

On the seventeenth day the pulse became markedly irregular. Paroxysms of regular tachycardia, at a rate of 106 per minute, were frequent; there were short periods of regular rhythm at a rate of 70 per minute; but the dominant rythym was markedly irregular from the presence of numerous premature contractions, with a pulse-rate of about 100 per minute (see Fig. 1).

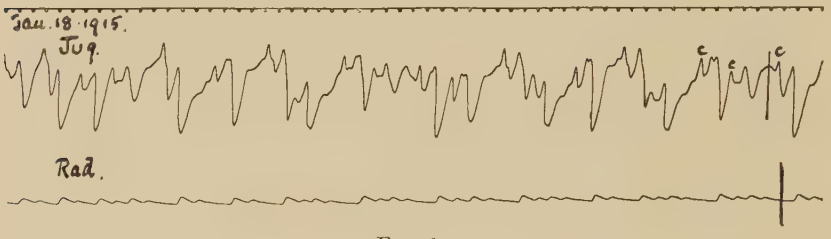

Fig. 1.

Cardiac dulness remained unchanged, but triple rhythm was present on auscultation. The liver extended 3 in. below the costal margin. There was marked pallor of face. The extremities remained warm. At 6 p.m. the patient cried out with pain in the right leg, referred to the popliteal space. Cardiac dulness had now increased, and extended 2 in. to the right of the middle line. The lower border of the liver extended 4½ in. below the costal margin.

On the following day the limb was discoloured, and the patient suffered from spasms of severe pain, referred to the right popliteal region, which was extremely tender to palpation. The limb was warm, but of lower temperature than the left; there was some cyanosis of the skin immediately below the knee. The pulse at the wrist was now regular, but very weak. At 4 p.m. a ring of œdema appeared about 1½ in. below the knee at the site of discoloration.

On the nineteenth day the patient was more comfortable, but still complained of severe pain in the leg at intervals. The ring of discoloration became more definite. The circulation in the superficial veins was maintained. Liver dulness now extended 3 in.

below the costal margin. Cardiac dulness was slightly reduced. Triple rhythm on auscultation persisted, and the pulse was feeble, but regular.

On the twenty-second day dry gangrene of the right small toe developed. During the day the outer aspect of the foot became black, and the skin over the right knee was deeply discoloured. The cardiac condition had returned almost to normal. The pulse was regular, but feeble. Liver dulness still extended 1½ in. below the costal margin.

On the thirtieth day the whole of the right leg below the level of the knee-joint was in a state of dry gangrene (see Fig. 2). The patient continued to complain occasionally of pain, which was

Fig. 2.

always referred to the region of the knee. The general condition was satisfactory.

On the thirty-fourth day palatal paralysis occurred, and there was occasional regurgitation of food. Three days later pharyngeal paralysis developed, and nutrient enemata became necessary. The diaphragm was acting feebly.

During the next fortnight the patient's general condition slowly improved. There was no extension of the gangrenous area, and a well-marked line of demarcation developed. On the forty-ninth day sloughing of the skin commenced at the upper limit of demarcation. A slight separation of the skin followed, and septic ulceration occurred.

On the sixtieth day the heart was normal. The pulse was of good strength and regular. The paralyses of the palate, diaphragm, and pharynx had passed off, and the patient was gaining strength gradually.

On the seventy-first day he was transferred to the Evelina Hospital, and three days later an operation was performed by

Mr. Clogg, the limb being amputated about the middle of the thigh. On examination afterwards it was found that the popliteal artery was completely occluded by a thrombus extending for a distance of 2 in. above the bifurcation of the artery.

Progress.—The patient was seen twelve months later, on March the 24th, 1916. There was then a slight systolic murmur at the apex, but the heart was not enlarged; he was able to get about on crutches quite satisfactorily, and was free from any symptoms of cardiac distress. The amputation stump was firm, and the patient suffered from no pain or discomfort in the limb.

Remarks.—Gangrene of the leg is a rare complication of diphtheria.

Rolleston (2), in describing a similar case to the present one in 1910, was able to collect only ten other cases from the literature, and in the subsequent discussion (3) at the Royal Society of Medicine on the present case, said that only four others had been recorded since, making a total of sixteen. In eight of these the signs pointed to an embolus as the cause of the gangrene.

In the present instance the embolus no doubt arose from thrombus formation within the left ventricle, the result of the considerable degree of cardiac dilatation and enfeeblement which followed upon the onset of a marked arrhythmia. The exact nature of the arryhthmia in severe cases of diphtheria is difficult to determine by means of the polygraph, but it is probably the result of impulses arising from abnormal foci within the auricle (1).

References.

(1) Gunson, E. B.—British Journal of Children's Diseases, 1914, xi, p. 385.
(2) Rolleston, J. D.—*Ibid.*, 1910, vii, p. 529.
(3) *Idem.*—'Proc. Roy. Soc. Med.,' 1916, ix, Child. Sect., p. 58.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, March the 24th, 1916.

The President, Dr. Robert Hutchison, *in the Chair.*

Rickets: Multiple Fractures.—Dr. H. Thursfield showed a girl, aged 2½ years, with old fractures of both clavicles, both femora, and both humeri, and recent fractures of right humerus and left fibula and tibia. She had marked rickety deformity of the thorax.

Osteogenesis Imperfecta.—Dr. H. C. Cameron.—The patient was a girl, aged 5 months. Three other children in the family. No history of fractures in any relatives. Born at full time. The baby was small, though not ill-nourished. On admission, there was tetany of the hands, and the spasm could be made very marked by rendering the hand cyanosed by the pressure of an elastic band around the upper arm. In a few days this disappeared. Until admission the baby was breast-fed. The shape of the skull was typical. The anterior fontanelle was large and continuous anteriorly with a persistent frontal suture, which, in part at least, was widely separated. The posterior fontanelle was also very large. The bones of the skull generally were very thin, and in many places yielded on pressure. The ossification was most defective in the lateral parts of the skull, which were formed largely in membrane, forming persistent lateral fontanelles of considerable size. In the temporal region, only marked on the left side, there was a bulging outwards above the ear, the apex of which was displaced a little downwards. The antero-posterior axis of the eyeball pointed downwards as a result of changes in the shape of the orbit. The skull presented a superficial resemblance to that of hydrocephalus of mild degree. The limbs were somewhat curved and a little short. A thickening due to callus could be felt in the shaft of the right femur. The sclerotics were somewhat blue.

Papulo-necrotic Tuberculide.—Dr. J. L. Bunch.—The patient was a boy, aged 17 years. The eruption had begun when he was aged 4 years, as a single red patch at the navel, on which small red nodules had developed later. The nodules were slightly raised, somewhat papular in character, and distinctly infiltrated. They had a tendency to necrose, and always left a superficial, shallow scar about $\frac{1}{8}$ in. to $\frac{1}{3}$ in. in diameter.

In 1906 there were about thirty of such scars round the umbilicus, and scattered among these were about a dozen millet-seed- to split-pea-sized raised red papules. During the succeeding years similar necrotic papules appeared in the inguinal region, on the thighs, on the upper part of the buttocks, in front of and behind both axillæ, and on the shoulders and back. Such papules were succeeded by superficial, depressed scars, similar to those previously described, so that there were then a very large number of such scars on the areas already mentioned – so many that they were not counted. The disease was evidently still progressive, for, when shown at the meeting, there was a well-marked raised red papule on the abdomen which had appeared during the past week, such as always went on to the formation of a depressed, atrophic scar.

The boy attended school regularly, and was not inferior in physique to other boys of his own age; there were not, and never had been, any signs or symptoms of lung trouble, but occasionally there had been enlarged glands. Since 1906 the disease had continually progressed, always in much the same manner, but more recently definite ulcers had been present on the legs and an unusual form of alopecia had shown itself.

The nodules and scars were always preceded by a circumscribed, irregular, dry, scaly, red dermatitis, such as was described in 1906 on the inner side of the thigh and arm, where there were now the characteristic scars. Similar appearances had preceded the atrophic tuberculide elsewhere, and there were, at the present moment, some patches of a similar dermatitis which would follow the usual cycle.

Guinea-pig inoculations were positive.

All kinds of treatment had been tried; tuberculins of various nature and in various doses, X rays, and local applications of all kinds.

Case of Molluscum Contagiosum.—Dr. J. L. Bunch.—The boy had a number of typical molluscum lesions, but in an unusual position. They were situated in the right groin and were in various stages of evolution. The usual positions—hands and face, etc.—were quite free from lesions.

Multiple Lupus Vulgaris.—Dr. J. L. Bunch.—A girl, aged 5 years, developed forty-four patches of lupus vulgaris after measles. The patches were of various sizes and situated on the face, trunk, and limbs. The lesions had been scraped and X rayed in addition to other local treatment in some cases, and were now cured.

Transient Hemiplegia in Diphtheria and Diphtheritic Onychia.—Dr. J. D. Rolleston.—A boy, aged 5 years, was admitted to hospital on October the 6th, 1915, with severe faucial diphtheria, on the third day of disease; 20,000 units of antitoxin were given on admission, 16,000 on October the 7th, and 12,000 on October the 8th. The throat became clean on October the 11th. An urticarial rash appeared at the injection site on October the 12th, and persisted till October the 15th. The same day the heart, hitherto normal, showed some slight left-sided dilatation and an occasional extra systole, and the child vomited. On October the 16th triple rhythm developed and the liver became enlarged. On November the 2nd the voice became nasal. In the morning of November the 3rd, the thirty-first day of disease, a circinate rash appeared on the limbs. Temperature 97·8° F. During the day he complained of abdominal pain, and at 10 p.m. became very pale and almost pulseless. At 1.30 a.m. the face, eyes, and arms twitched, and between 4 a.m. and 6.40 a.m. he had general convulsions. At 11.20 a.m. he was found to have complete loss of power in the right upper and lower extremities. There was slight facial palsy. The right abdominal reflex was less marked than the left. Both plantar reflexes were flexor. There was no ankle clonus. The knee-jerks were absent. He seemed to understand what was said to him, but could not speak. The left index, middle, and ring-fingers each showed a bulla on the terminal phalanx. At 7 p.m. he had recovered some power in the right upper limb, but the lower limb was still paralysed. The right plantar reflex was now extensor. He could now speak a few words. The following morning he had quite recovered his speech, and could move his right arm and leg freely. The right plantar reflex was still extensor, but became flexor the next day. The voice remained nasal until November the 29th, but no other nervous symptoms developed, and when he was allowed up, on December the 3rd, the sixty-first day of disease, he could walk without support.

In spite of a variety of local applications the lesions in the fingers showed no tendency to heal, but sloughing took place, especially in the middle finger. No membrane was seen at any time. There was no constitutional disturbance, nor any rise of temperature.

On January the 19th a culture taken from the lesion on the middle finger showed numerous groups of diphtheria bacilli, and 8000 units of antitoxin were injected. Within a week the lesions, which had been in existence for two and a half months, had completely healed. On his discharge from hospital the left index, ring, and especially the middle finger showed some

deformity and ulnar deflection of the terminal phalanges. There was marked limitation of movement of the terminal phalanges of the index and middle fingers, from which nearly all the nail had disappeared. The nail of the ring finger showed only a deficiency on the ulnar side.

Gangrene of the Leg following Diphtheria.—Dr. E. B. Gunson. —(*Vide* p. 237.)

Rapid Respiratory Rhythm apart from other Evidence of Disease.—Dr. C. O. Hawthorne.—A girl, aged 8 years, was under observation in hospital for some six weeks, and no evidence of organic disease was discovered. The respiratory rate was constantly quickened (60 to 80 per minute), and occasionally exceeded the pulse-rate; when the child was asleep, however, it fell to 20 to 25. There were no other symptoms, and, save for the rapid breathing, the child seemed to be in a normal state of health. When she left the hospital the respiratory rate was about 40 per minute.

Acute Nephritis without Œdema; Recovery.—Dr. C. O. Hawthorne. —A girl, aged 9 years, was sent into hospital as "probably a case of intestinal obstruction"; the recent history was of constipation with persistent vomiting of forty-eight hours' duration. Physical examination negative, but for several days urine scanty (8 oz. to 10 oz.) with albuminuria (Esbach 3·5) and numerous epithelial, granular, and hyaline tube casts; no blood. Early cessation of vomiting and urine normal at the end of a fortnight. No œdema at any time; maximum sphygmometer reading 85 to 90; no evidence of cardiac hypertrophy; brachial arteries palpable, but not in excess of those in other children of same age; and ophthalmoscopic examination negative. No clinical evidence of specific disease, and Wassermann reaction negative.

Congenital Sclerodermia and Sclerodactylia.—Dr. E. A. Cockayne. —(*Vide p.* 225.)

Paroxysmal Hæmoglobinuria.—Dr. E. A. Cockayne.—The patient, a boy, aged 7 years, lived in India until March, 1915, where he suffered slightly from malaria. There was a history of a miscarriage before he was born, and of a stillborn premature child two years ago. The first attack of hæmoglobinuria occurred the day after landing in England. He was free in the summer, but in the autumn with the onset of cold weather attacks had occurred fairly often. Previous to the attack the ears and feet feel very cold, but there were no definite phenomena of Raynaud's disease. The child was thin, red-haired, and very anæmic. No definite stigmata of congenital syphilis. The urine during an attack was coffee-coloured and contained hæmoglobin and methæmoglobin, but no red corpuscles and no casts. Wassermann reaction strongly positive.

Brain of Mongolian Imbecile.—Dr. J. D. Rolleston.—The patient was a female infant, aged 12 months, the youngest of eight children, who died of severe faucial and laryngeal diphtheria, complicated by broncho-pneumonia. The brain of a normal infant of the same age who also died of faucial and laryngeal diphtheria complicated by broncho-pneumonia was exhibited to show more clearly the following features of a Mongol's brain:

(1) Reduction of the antero-posterior diameter. The brain, as a whole, was short and oval.
(2) The large and flat character of the convolutions.
(3) The shallowness of the secondary sulci.
(4) The deficient vascularity.
(5) The small size of the pons, medulla, and cerebellum.

The brain, as a whole, was a good size for an imbecile's brain. Its weight was 836·32 grm., as compared with 816 grm.—the normal weight of a female infant aged 1 year. There was no obvious asymmetry nor any localised macroscopic lesion.

Skeleton from a Case of Osteogenesis Imperfecta.—Dr. H. C. Cameron.—The baby was aged 2 months. The birth had been premature and the deformities had been noticed from the first. The frontal suture was persistent and widely separated. The anterior, posterior, and lateral fontanelles were all widely patent. The bones of the skull were very thin. The orbits were oval, with the long axis vertical. In the temporal region the walls of the cranium were formed almost entirely of membrane, and the position of this membranous area corresponded with that of the bulging above the ear which was so marked a feature later in life. Almost every rib was fractured once, and some were fractured twice. The fractures were situated for the most part just in front of the angle of the rib, and formed two vertical rows, one on either side of the vertebral column. The position had probably been determined by the pressure of the mother's hands in the axillæ of the child in lifting it from the recumbent position. The pelvis was small and triradiate. The limbs were much deformed and curved. The curves generally seemed to exaggerate and perpetuate the posture which the child adopted *in utero*. There were numerous fractures situated generally on the apex of one of the curves. The hands and feet were slender but normal.

Report on a Case of Hemi-hypertrophy with Post-mortem Examination.—Dr. R. Hutchison.—(*Vide p.* 233.)

Abstracts from Current Literature.

Diseases of the Alimentary System.

Diet and the care of children's teeth (*'Med. Press,'* 1916, i, *p.* 55).—**S. Friel** maintains that errors in the diet of children are the chief cause of early dental decay and of malformation of the jaws, which result in irregularity of the teeth and facial disfigurement. Too much emphasis cannot be laid on giving foods that require mastication to children over 9 months old. A suggested suitable dietary is given. In making some practical suggestions for the care of children's teeth the author points to the importance of systematic cleaning of the teeth and oral hygiene. Sweets, biscuits, or cakes should never be given at bed-time. Mouth breathing is one of the greatest causes of irregularities of the teeth. Infants and children should always keep their mouths shut at night-time, and if they find it is not possible to do so, the nose and throat should be examined to

discover the presence of adenoids or other obstruction. Such habits as sucking fingers, pieces of blanket, comforters, or biting the lips are injurious to the teeth, and should be stopped at once. It is advisable for children to be brought to their dentist every four months to see if there are any decayed teeth. It is much simpler to fill a small cavity than a large one, and not so painful. When a tooth starts to ache it is often too far gone to fill. If irregularities of the teeth occur they should be corrected without delay, as they are more difficult to treat later. The preservation of the temporary or "baby" teeth is important, for if a temporary tooth is lost prematurely, either by decay or extraction, the space for the permanent tooth closes up and there is no room for the latter when it erupts. J. Allan.

Hypoplasia of the teeth (*'Med. Journ. Australia,'* 1915, II, *p.* 412).—**H. Sutton** found that of 141 immigrants, 11 per cent. had definite honeycombed teeth, 6 per cent. marked patchy opacities, and in 83 per cent. nothing special was noted. This kind of teeth is dark and possesses marked depressions, pits, and gullies; the incisors, canines, and first molars of the permanent set are affected. Rickets added to a hard-water supply appears to be especially liable to cause honeycombed teeth.

F. R. B. Atkinson.

Teething as a diagnosis of many ills (*'Amer. Journ. Obst.,'* 1916, LXXIII, *p.* 554).—**J. Epstein.**—Teething is a normal physiological process in the life and development of the infant, and usually gives rise to no pain or ill-health (*vide* British Journal of Children's Diseases, 1914, XI, *p.* 480; and 1912, IX, *p.* 226). Its ætiological and pathological importance has been grossly exaggerated. In the examination of a large number of infants and young children Epstein saw cases of gingivitis, stomatitis, tonsillitis, retro-pharyngeal abscess, otitis media, gastro-intestinal disease, and convulsions diagnosed as teething. Dentition may cause swelling and redness of the gums, but in the majority of cases the swollen gums, like many other diseases of infancy and childhood, have no relation to dentition. J. D. Rolleston.

Acute non-epidemic inflammation of the sublingual glands in children: an infection of unknown origin (*'Amer. Journ. Dis. Child.,'* 1915, X, *p.* 94).—**H. Neuhof** records three cases in children, aged from 6–9 years, characterised by rapid development of a sublingual and median submental swelling and fever in previously healthy children. The sublingual swelling and fever soon disappear, whereas the submental progresses, though it subsides before abscess formation takes place. There are no complications, sequelæ or recurrences. J. D. Rolleston.

The relation between the proteolytic and chymosinic activity of the gastric contents in infants (*'Riv. di clin. pediat.,'* 1915, XIII, *p.* 481).—**G. Finizio** made observations to investigate the truth of the prevailing opinion that in healthy infants, even the newborn or premature, the gastric contents possessed marked chymosinic, but little or no proteolytic power. He found that in fasting the gastric contents exhibited the maximum activity, both proteolytic and chymosinic; half an hour after a feed they showed no proteolytic and a diminution of chymosinic power; subsequently both these activities were increased. In infants suffering from gastro-intestinal disturbance this relationship was disturbed, but observations were made on too few cases to draw any definite conclusions.

Vincent Dickinson.

The use of bismuth pills in the fluoroscopic examination of the infant's stomach (*'Amer. Journ. Dis. Child.,'* 1915, IX, *p.* 461).—**A. F. Hess**, in order to gauge the size of the pylorus and to judge whether it was normally patent or not, had bismuth pills prepared of three sizes (9, 15, and 21 mm. in circumference) and coated with keratin to prevent their dissolution by the gastric juice. They were placed on the dorsum of the tongue and gently pushed into the pharynx. It was found that normally objects did not leave the stomach in direct ratio to their size, but that larger objects were propagated into the intestine more quickly than smaller ones. According to the posture of the infant there was a marked difference in the emptying time of the stomach. Delay in the passage of the pills when the infant lay on its left side, and hastening of their passage when it lay on the right side, were almost constant. In pylorospasm there was retardation of the passage of the pills from the stomach into the intestine. In mild cases papaverin was efficient in definitely shortening the time of exit. J. D. Rolleston.

Gastric glands in Meckel's diverticulum (*'Amer. Journ. Med. Sci.,'* 1915, CL, *p.* 69).—**G. R. Callender.**—An infant, aged 15 months, died of intestinal hæmorrhage. Post mortem, a diverticulum was found, 75 cm. from the cæcum, on the border of the ileum opposite its mesenteric attachment and connected with the posterior wall of the cæcum by a fibrous band. On section there was a punched-out ulcer in the ileum at the border of the diverticulum, and in the margin of the ulcer a small vessel plugged with clot. On microscopical examination the ulcer was found to extend through the mucosa. Glands of the type found in the gastric fundus were present in the mucosa of the diverticulum. The usual structure of Meckel's diverticulum is that of the ileum, and Callender could find no similar case on record. J. D. Rolleston.

Rumination in infancy (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 678).—**A. Strauch** reports the case of a female infant, who, at the age of 5 weeks, began to suffer from symptoms of pylorospasm associated with rumination. The latter was checked by impeding nasal respiration, either by compressing the nostrils or by plugging them with cotton-wool. The child died as the result of measles and no post-mortem was made.

T. R. Whipham.

Duodenal ulcer in infancy an infectious disease (*'Amer. Journ. Dis. Child.,'* 1915, X, *p.* 397).—**L. Gerdine** and **H. F. Helmholz** refer to the papers by Helmholz (*vide* British Journal of Children's Diseases, 1910, VI, *p.* 225), Holt (*ibid.*, 1914, XI, *p.* 227), and Veeden (*ibid.*, 1915, XII, *p.* 216), and report eleven cases in children aged from 1 month to 10 years, which occurred at a hospital in the course of six months. Death from hæmorrhage occurred within forty-eight hours in all cases except one, in which it occurred after a week from an intercurrent affection when the ulcer was practically healed. As a complication in atrophic infants the prognosis is always bad. Diplococci and streptococci were found in all the ulcers of this series and in ten out of fourteen ulcers of a previous series. From one ulcer a *Streptococcus viridans* was cultivated, which, when injected into dogs and rabbits, became localised in the pyloric end of the stomach and duodenum and produced there hæmorrhages and ulcers. J. D. Rolleston.

A contribution to the diagnosis of appendicitis in childhood (*'Arch. of Ped.,'* 1916, xxxiii, *p.* 197).—**F. L. Wachenheim** recommends more general use of rectal examination, which often reveals tenderness at McBurney's point. F. R. B. Atkinson.

A case of Hirschsprung's disease (*'Arch. of Ped.,'* 1915, xxxii, *p.*278). —**J. I. Linde** and **S. B. Kleiner** report a case in a girl, aged 3 years, who had always been very constipated. She had never had a bowel movement without an enema except during an attack of ileo-colitis at the age of 1 year. Five days would pass without a motion, and then she would show signs of toxæmia or have a convulsion. She would then be given enemata and retain over a quart. The motions were very large, at first hard, then loose and very foul. She vomited very frequently. The abdomen was protuberant and the superficial veins enlarged. The X rays confirmed the diagnosis. J. D. Rolleston.

Megacolon and microcolon (*'Amer. Journ. Dis. Child.,'* 1915, ix, *p.* 283).—**L. Porter** and **A. Weeks** think that megacolon is commoner than is generally thought. The symptoms are present from birth, viz., enlarged abdomen, visible intestinal peristalsis, obstinate constipation, later anæmia and toxæmia from fæcal retention, accompanied sometimes by recurring attacks of intestinal obstruction. Pathological hypertrophy with dilatation may include the entire intestine or cease at the sigmoid, which will be hypertrophied but with a narrow lumen. The best treatment is operation performed in two or three stages, colotomy with artificial anus, later excision of the entire large intestine with anastomosis from the ileo-cæcal region into the rectum, or anastomosis may be done as a second stage and resection of the entire colon may be made a third operation. The writers report three cases of megacolon, in two of which the symptoms were present at birth, and one of microcolon with hypertrophied small intestine.

J. D. Rolleston.

A case of amœba colitis (*'Arch. of Ped.,'* 1915, xxxii, *p.* 272).—**G. J. Greil** reports a case in a boy, aged 5 years. The symptoms were colicky pain and loose blood-stained motions. The patient was cured by hypodermic injections of emetine hydrochloride, the doses varying from gr. $\frac{1}{10}$ to gr. $\frac{1}{6}$. J. D. Rolleston.

Severe acute enteritis with diffuse streptococcal peritonitis by propagation (*'Rev. Méd. de la Suisse rom.,'* 1915, xxxv, *p.* 37).—**Weinberg.** —A girl, aged $7\frac{1}{2}$ years, was admitted to hospital as a case of typhoid fever. Five days previously she had complained of abdominal pain and shown tenderness to the right of the umbilicus. During the next four days she had several green stools. On admission Widal's test and the diazo reaction were negative, and there was a leucocytosis of 8,800. Owing to the board-like resistance of the abdomen (*ventre de bois*), Prof. Combe diagnosed perforative peritonitis in spite of the numerous stools. Roux regarded the case as too bad for operation. Death occurred two days later after an illness of five days. Post mortem the omentum was found covered with thick green pus, but there was no sign of a perforation or of a circumscribed lesion. The mucous membrane of the ileum, especially of Peyer's patches, was swollen, and there was very slight irritation of the rest of the intestine. Streptococci were cultivated from the spleen. J. D. Rolleston.

Practical importance of examination of stools in infants (*'Am. Journ. Med. Sci.,'* 1915, CXLIX, *p.* 815).—**H. M. McClanahan** and **T. C. Moore** examined the milk ingested for specific gravity, reaction and amount of fat, carbohydrates and proteids, and the stools of the infant for colour, reaction, odour, consistency, blood, mucus, curds, total fats, reaction to lugol solution, and for Gram-fast and negative bacilli. Mucus is distinguished from partially digested starch by the addition of iodine, which stains the latter bluish-pink. Fat curds float while casein curds sink in water; casein curds harden in formalin. The nature of the fatty substances in the stool, whether fat, fatty acid, or soap, can be roughly obtained by microscopical examinations. Sudan iii, if used to stain a small portion of the stool, stains the fats red, fatty acids orange, while the soaps are not stained. On addition of glacial acetic acid the fats are converted into fatty acid and appear as orange-red droplets. If there is a large increase of droplets after the addition of the acid, the fat has been present in the form of soaps. As regards colour, malt feeding gives brown stools, condensed milk light yellow stools, and skimmed milk very pale stools. Green stools, due to the *B. pyocyaneus*, lose their colour on the addition of nitric acid, while those due to biliverdin give the well-known bile reaction. Grey stools are due to the absence of bile. A highly acid stool is due to excess of carbohydrate, a relative excess of proteid gives an alkaline stool. The stool of an infant fed on cow's milk is thicker and more pasty than that of the breast-fed. If the stool contains excess of neutral fat or fatty acid it is soft and oily, if excessive soap it is hard and dry, and if there are excessive carbohydrates it is thin, watery, and sometimes foaming. Black blood comes either from a fissured maternal nipple or a duodenal ulcer. Fresh blood usually comes from a lesion of the infant's rectum. An excess of fatty acid and soaps shows that neutral fat has been broken up but not absorbed, and should always lead to a suspicion of tuberculosis. Excess of fatty acid often causes diarrhœa with a marked loss of sodium and potassium and a relative acidosis which may set up cyclic vomiting. A marked preponderance of Gram-negative bacilli as compared with Gram-positive lactic acid organisms indicates a change from normal fermentation to putrefaction.

CHRISTOPHER ROLLESTON.

Summer diarrhœa (*'Med. Press and Circ.,'* 1915, II, *p.* 28).—**E. Cautley.**—The disease is commonest between 3 months and 2 years. The chief ætiological factors are food supply and environment. In babies artificial feeding and dirt are the chief factors. The organisms found chiefly belong to the Gaertner group of bacilli. Symptoms: Restlessness, sleeplessness, vomiting, collapse. Fever may be due to toxæmia alone. At first in mild cases the symptoms resemble those due to unsuitable food; in a short time greenish stools are passed, and perhaps blood and mucus. Recovery may ensue in a few days, or the disease become more severe with high temperature, vomiting, thirst, dirty-green watery and offensive stools, occasionally blood and mucus. Drowsiness and prostration rapidly follow, and death frequently ensues. In the fulminating cases the onset is very rapid and the discharge resembles true cholera. The prognosis should always be guarded. Treatment: Breast-feeding should be insisted on during hot weather. The slightest attack of diarrhœa should receive immediate treatment with castor oil or calomel, etc., and temporary starvation. In more severe attacks stop all food by the mouth and give calomel or castor oil. Sodium sulphate gr. x every half to one hour for four to six

doses is a good remedy for children over 9 months of age, but it should not be given if the temperature is low. If the vomiting is severe, wash out the stomach. Irrigation of the colon is indicated in severe cases. Collapse is relieved by hot fomentations, mustard leaf or bath, and brandy by the mouth with sal volatile, camphor, ether, or caffein, and subcutaneously strychnine. Subcutaneous saline injections are of value. If there be much fever sponge the body. The diet should consist of water, toast-water, and weak tea for 12–24 hours, then 5 per cent. lactose solution for 1–3 days, and after this the same in barley water. After 2–3 days lactose and dried casein and peptonised milk and barley water can be tried until the ordinary diet is resumed. In the acute stage Dover's powder every 2–3 hours for six doses can be given. After the preliminary purgation, bismuth and soda or tr. camph. co. or carbolic acid may be given with advantage. The child should be kept warm. F. R. B. Atkinson.

Relation of bacteria to summer diarrhœa (*'Boston Med. and Surg. Journ.,'* 1915, clxxii, *p.* 851).—**A. L. Kendall** mentions three theories of the causation of diarrhœa—meteorological, physiological, and bacterial. The first mentioned cause includes comparatively few cases which occur in hot, humid summer weather and are accompanied by high temperature and severe prostration. Recovery ensues on removal to a suitable environment. The causative bacteria vary from year to year. In 1910 the predominating agents were the dysentery bacilli of Flexner and Shiga, in 1911 the streptococci, the incriminating evidence against these organisms resting on their unusually high count in the fæces, and on the septic character of the sequelæ, which included peritonitis, otitis, nephritis, and septicæmia, and in 1912 the ætiological factor was the *B. aerogenes capsulatus*, which produces a characteristic necrosis of the solitary follicles of the intestine and flourishes on the administration of sugars which inhibit the growth of dysentery bacilli, but succumbs to buttermilk containing lactic acid. In 1913 another variety of capsulated organism was the cause of a less lethal form of the disease. It is widely distributed in nature and was found even in Boston certified milk. Christopher Rolleston.

Infectious diarrhœa (*' New Orleans Med. and Surg. Journ.,'* 1915, lxxviii, *p.* 229).—**C. J. Bloom.**—During the summer of 1914 Flexner's *B. dysenteriæ* was found in the majority of cases in the Boston Floating Hospital. *B. Welchii*, streptococci, typhoid, and paratyphoid bacilli were also found. Sixteen out of 25 cases were under 1 year, 8 were between 1 and 2 years, and only 1 was over 24 months. Ten of the 12 deaths occurred under 12 months of age; 14 were males and 11 females. The resistance of the Italian children was superior to that of the other nationalities. Ten of the 12 fatal cases had been previously fed on breast milk alone or in combination. The average illness lasted 23 days. Most cases that lived 20 days or more recovered. All cases in which ruby-red lips were noted in contrast with the anæmia died. Vomiting was present in 21 cases. Blood was seen in 80 per cent., pus in 48 per cent., and mucus in all. Among 18 in which the weight was recorded the greatest loss in one day was 1 lb. 7 oz., and in two days 2 lb. 6 oz. Each patient had on an average 10 days of fever while in hospital. The temperature ranged between 106° and 100° F. All with a temperature above 104° F. died. The maximum respiration varied from 30 to 70 per minute; all the fatal cases had respirations above 30. The pulse varied from 120 to over 190. The toxic cases

were principally those caused by Flexner's *B. dysenteriæ*; the non-toxic cases were caused by *B. Welchii* or mixed infection. With the fall of temperature there was a corresponding rise in the total leucocyte count. The Flexner group showed a leucopenia throughout their illness, the Welch group a leucocytosis, and the cases of mixed infection a marked leucocytosis.

J. D. Rolleston.

Relation of gas bacillus to infectious diarrhœa and other digestive disturbances in childhood (*'Arch. of Ped.,'* 1915, xxxii, *p.* 457).—**P. H. Sylvester** and **F. H. Hibben**, as the result of their investigations, come to the following conclusions: (1) The gas bacillus is not a normal inhabitant of the intestinal tract. (2) Its pathogenicity is demonstrable in certain cases of infectious diarrhœa, fat intolerance, carbohydrate intolerance, and chronic intestinal indigestion. (3) The best dietary treatment is fat-free lactic acid milk, unpasteurised, as it imposes conditions unfavourable to the growth and activity of the gas bacillus. J. D. Rolleston.

Presence of B. dysenteriæ and other bacilli in acute infectious diarrhœa (*'Boston Med. and Surg. Journ.,'* 1915, clxxii, *p.* 280).—**C. Ten Broeck.**—The dysentery bacillus was isolated in 54 out of 79 cases. A suspension of the stools was placed on endo-medium, subcultured in Bouillon, and then transferred to Hiss' solid medium containing either lactose or mannite. The macroscopic test was then applied to the bacilli, anti-dysenteric horse-serum being used. Comparatively few colonies grew on the endo-plates, and in 4 cases of ante-mortem failure the organism was discovered at the autopsy. Not a single culture of the Shiga bacillus was obtained, but the majority belonged to the Hiss' "Y" type fermenting dextrose and mannite, but not saccharose, maltose, dextrin, and lactose. The remaining forms were equally divided between the Strong and Flexner types. In diarrhœa due to indigestion the dysentery bacilli were never found. The *Bacterium Welchii* was found in 11 per cent. of the cases showing dysentery bacilli, in 26·4 per cent. of cases of indigestion, in 29 per cent. of patients suffering from malnutrition, and is frequently isolated from normal stools. Its causal agency in diarrhœa is, therefore, not proven. *B. proteus* was only found in 4 out of 31 stools containing dysentery bacilli. *B. pyocyaneous* and Morgan's bacillus No. 1 were found so infrequently that their lethal power is discountenanced. Christopher Rolleston.

A note on the invasion of the bodies of infants by the B. dysenteriæ (*'Boston Med. and Surg. Journ.,'* 1915, clxxiii, *p.* 84).—**C. Ten Broeck** isolated *B. dysenteriæ* from the blood of a male infant suffering from a temperature of 105° F., prostration, and symptoms of typhoid fever. The organism corresponded to the Flexner type of *B. dysenteriæ*, and was agglutinated by anti-dysenteric serum. Blood-cultures were made from 11 other cases, in 6 of which the dysenteric bacilli were present in the stools and in 5 clinical symptoms of acute infectious diarrhœa were present. In none of the blood-cultures was the bacillus found. In 14 other cases the abdominal organs were examined, with a negative result. In a few cases the alimentary canal was searched for dysenteric bacilli, which were found in the lowest part of the ileum and throughout the large intestine.

Christopher Rolleston.

Intestinal parasites in children (*'Amer. Journ. Dis. Child.,'* 1915, x, *p.* 363).—**G. J. Greil**, of Montgomery, Alabama, examined 665 children, under 12 years of age, between September, 1910, and April, 1915, and found

240 infected. Hookworm infection was commonest (26·75 per cent.), hymenolepis nana was found in 5·75 per cent, ascaris lumbricoides in 4·06 per cent., oxyuris vermicularis and trichocephalus dispar in only 0·75 per cent. each, and mixed infection in 1·8 per cent. The larger percentage of hymenolepis nana and ascaris lumbricoides and the small number of oxyuris vermicularis were surprising, but confirmed Schloss's findings (*vide* British Journal of Children's Diseases, 1910, vii, *p.* 276). Less than 10 per cent. of those infected complained of symptoms referable to the infection. Greil recommends that every county and municipality should appoint a special physician to follow the work done by the Rockefeller Hookworm Commission (*ibid.*, 1915, xiii, *p.* 64) and to examine the fæces of every child in the district. No child should be permitted to attend school until an examination had been made and proved negative. J. D. Rolleston.

Trichocephalus dispar infection (*'Med. Record,'* 1915, lxxxviii, *p.* 318).—**R. R. Mellon** reviews the literature and reports a case in a girl, aged 3 years, who had lived for the past year in the Philippines. About five or six months ago her appetite disappeared and marked abdominal bloating was noted. She did not sleep well, and frequently awoke with a shriek. Clonic spasms of the muscles occasionally occurred at these times, and not infrequently a generalised toxic spasm produced rigidity of the whole body. About two and a half months ago she suddenly developed moderate jaundice with a temperature of 104° F. In twenty-four hours the temperature became normal and the jaundice gradually disappeared. Trichocephalus eggs were found in the stools. Blood examination: Reds, 3,330,000; whites, 8,200; hæmoglobin, 70 per cent. Differential count: Polymorphs, 36 per cent.; large mononuclears, 42·2 per cent.; small lymphocytes, 14·5 per cent.; eosinophils, 7·5 per cent. Under treatment with cina, saline purges and santonin the eggs disappeared from the stools and considerable improvement took place. J. D. Rolleston.

A case of trichocephalus dispar (*'Dublin Journ. Med. Sci.,'* 1915, i, *p.* 197).—**H. C. Drury.**—A boy, aged 12 years, had very markedly enlarged glands on both sides of the neck, and a few small glands could be felt in the axillæ and groins. He looked wretchedly ill; he was, in addition, very deaf, and had very defective vision due to opacity of both corneæ; appetite voracious; bowels extremely constipated; urine free from sugar and albumin; temperature subnormal and irregular. As Hodgkin's disease was suspected, he was treated with arsenic and improved considerably. A specimen of his blood was sent for microscopical examination and for the Wassermann reaction. The reports received were: "Large lymphocytes, 43 per cent.; polymorphs, 46 per cent.; eosinophils, 10 per cent. This does not support the idea of Hodgkin's disease, but the large percentage of eosinophil cells suggests the presence of intestinal worms." The Wassermann reaction was strongly positive. Under anthelmintic treatment a male ascaris lumbricoides was expelled, and microscopic examination of the fæces disclosed the presence of numerous eggs of trichocephalus dispar, but none of ascaris lumbricoides. As the patient was young and far from robust it was not deemed advisable to try thymol or other toxic drugs. The operation of appendicostomy was therefore performed, and the worms were attacked by injecting infusion of quassia into the cæcum through the fistula thus made. Many specimens of trichocephalus dispar were subsequently evacuated in the alvine discharges, and a cure has apparently been effected.

J. Allan.

Tænia saginata (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 1972).—**M. C. Hall** reports the occurrence of tænia saginata or beef tape-worm in a Polish child at the early age of 14 to 18 months. In addition to the worm, the larvæ of a beetle, the *Tenebroides mauritanicus*, were found in the fæces. The latter are not parasitic and were probably ingested in old bread.

T. R. WHIPHAM.

Syphilis.

The luetin test in congenital syphilis (*'Med. Press,'* 1915, II, *p.* 460).—**Adair Dighton** records his experiences of this test in thirty cases where the family histories might suggest congenital syphilis. His results were negative; in no case was there the slightest sign of any skin reaction, and in only one case was there a constitutional reaction which might possibly be ascribed to the luetin, this case being a boy, aged $7\frac{3}{4}$ years, with a large perforation of the palate and ulceration of the epiglottis. Interstitial keratitis, ozæna, adenoids, progressive myopia were among the diseases suffered from by the children tested in this way. He considers that the luetin test is useless in these cases.

J. ALLAN.

The value of the luetin reaction in congenital syphilis (*'Arch. of Ped.,'* 1916, XXXIII, *p.* 186).—**M. B. Gordon** refers to Alan Brown's paper (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1914, XI, *p.* 45) and records his own observations. He found the reaction positive in 18, or 81 per cent., of 22 cases of congenital syphilis, and absent in all but one out of 33 non-syphilitic cases. He regards the test as more suited for pædiatric work than the Wassermann reaction. The test is absolutely safe, as not a single case has been reported of syphilitic infection having been conveyed into the system. As a rule no constitutional disturbance is produced (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *pp.* 29 and 255).

J. D. ROLLESTON.

The ætiological relationship of syphilis to Sydenham's chorea (*'Arch. of Ped.,'* 1915, XXXII, *p.* 561).—**H. Koplik** studied this question in eleven cases of chorea, aged from 6 to 13 years. Wassermann's reaction was negative in eight, doubtful in two. None had any stigmata of syphilis, hereditary or otherwise. Nine were given intravenous injections of neo-salvarsan in doses ranging from 0·15 grm. to 0·4 grm. No benefit ensued, a relapse was not prevented, and in one nephritis resulted. Koplik concludes that salvarsan is not of any special value in the treatment of chorea, and that we are not warranted in tracing any relationship between Sydenham's chorea and hereditary or acquired syphilis (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, X, *pp.* 27, 46, 188; and 1914, XI, *p.* 45).

J. D. ROLLESTON.

Congenital syphilis simulating Mongolism in one of twins (*'Amer. Journ. Dis. Child.,'* 1916, XI, *p.* 55).—**F. van der Bogert.**—In a family of four children the first child, born when the mother was 18 years old, presented a Mongolian appearance, a large liver and spleen, and a positive Wassermann reaction, the second child, aged 8 years, was normal. Of twins aged 5 years, born when the mother was 22, one was normal and the other simulated Mongolism chiefly by his broad flattened nasal bridge. The palpebral fissures were narrow, but there was little if any slanting. The tongue did not protrude, nor was it fissured. The head was not flattened antero-posteriorly, the

hands were not characteristic, and the child was brighter mentally than his normal brother. J. D. Rolleston.

Familial syphilis (*'Am. Journ. Dis. Child.,'* 1916, xi, *p.* 11).—**P. C. Jeans** studied the families of 100 cases of syphilis treated at St. Louis Children's Hospital. He thinks it highly probable that all the mothers were infected. Of 85 mothers of syphilitic children, 86 per cent. gave a positive Wassermann reaction. All the rest but 6 gave a history of infection, or treatment, or both. Five of the 6 were examined at least ten years after the birth of the last syphilitic child, when the infection was probably dying out. Of 331 pregnancies in the 100 families, 30 per cent. were abortions, 9 per cent. stillbirths, and 61 per cent. living births. Of the living births 24 per cent. had died. Of those living 80 per cent. had syphilis. Of the total pregnancies 90 per cent. were presumably syphilitic, and there was no proof that the remaining 10 per cent. were all free from syphilis. Most of the families followed Kassowitz's rule, *i. e.* decreasing grades of infection in the children. Several of Jeans's families supplied evidence of a neurotropic strain of spirochæte. J. D. Rolleston.

Congenital syphilis of the hands and feet (*'Dub. Journ. Med. Science,'* 1915, ii, *p.* 450).—**H. de L. Crawford**, at a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, showed photographs of four cases. The skiagrams were brought forward as congenital syphilis of the hands and feet was considered a rather rare condition. The first case, a boy, aged 11 years, came with a very large swelling on the outside of the left foot and a good deal of thickening in the soft parts. He had typical Hutchinson's teeth. The condition further developed, and when the photographs were taken it had spread to the proximal phalanges of the big toe. The X ray pointed to the condition being gummata underneath the bone. The patient was given a half dose of "606" without effect. Under continued treatment with mercury and iodide of potassium the gummata healed up. The second case was that of a boy who had also well-marked Hutchinson's teeth. He was the only living child in the family, and there was a history of six miscarriages. The thumb was very swollen and the phalanges showed small areas of rarefaction. There was no pain, so the condition was not looked upon as tuberculous. There was no sign of ordinary or of syphilitic rickets. The third case occurred in a baby, aged 1½ years. The child was an adopted one, and no definite family history was forthcoming. There was much metacarpal thickening. The child had a typical syphilitic forehead, and the absence of increased heat, tenderness or pain made it positive that the case was not one of tuberculosis. The fourth case was that of a child with swollen ring-finger on the left hand. The swelling was due chiefly to the enlargement of the soft parts. The skin was redder and warmer than in the previous case, but there was no tenderness. Amputation of the finger was advised. On cutting down to the periosteum, through apparently fibrous tissue, the extensor was found to be involved, and a rather soft, gritty substance was seen, which was apparently new bone. The wound was closed up aseptically and it healed. In a week later there was slight enlargement of the other hand. The case was considered syphilitic. The family history was very bad. There had been three miscarriages. In conclusion, the author remarked that this condition appeared to be more common than was expected, and he had therefore decided in future not to label any of these cases as tuberculous until they had been well examined. J. Allan.

Chronic cervical adenopathy in heredo-syphilis (*'Thèses de Paris,'* 1915–6, No. 27).—**Y. Pouzin.**—Enlargement of the cervical glands may be attributed to syphilis when it occurs in heredo-syphilitic children who show a positive Wassermann and a negative von Pirquet, without lesions in the skin or mucous membranes of the corresponding lymphatic area. This adenopathy is a later manifestation of heredo-syphilis. In heredo-syphilitic children with a positive tuberculin reaction, but without any clinical symptoms of tuberculosis, it is difficult to state the nature of the glandular enlargement. Pouzin, however, thinks that it may be, and often is, syphilitic, owing to the improvement produced by mercury and iodides, which have little or no effect on tuberculous adenitis. Clinically there is no pathognomonist sign of syphilitic adenopathy. In every case of glandular enlargement of which the tuberculous nature is not proved either by local or general examination, one should always think of heredo syphilis. The thesis contains the histories of forty-two cases in children, aged from 3½ to 15 years. J. D. Rolleston.

Symmetrical synovitis in hereditary syphilis (*'Boston Med. and Surg. Journ.,'* 1915, clxxiii, *p.* 941).—**Abner Post** describes Clutton's 11 cases which were characterised by insidious chronic painless synovitis of the knee joints, rarely of the ankle, with thickening of the synovial membrane, but without enlargement of the bones. They were not improved by local treatment. Five had Hutchinsonian teeth, 4 had tibial nodes, 9 had interstitial keratitis, and 2 were absolutely deaf. The joints are not affected simultaneously, the second may follow the first at an interval of twelve months. Locomotion is awkward, and the joints may become flexed. Recovery is usually perfect, but slight permanent flexion of the joints may ensue. A personal case is recorded presenting no other signs of the disease at first and a negative Wassermann. Later keratitis developed. Mild mercurials with salvarsan as an adjuvant are advised.

Christopher Rolleston.

Mental features of congenital syphilitics (*'Boston Med. and Surg. Journ.,'* 1915, clxxiii, *p.* 952).—**J. H. Bazeley** and **H. M. Anderson** state that not more than 30 per cent. of delinquency is connected causally with congenital syphilis, but in over 50 per cent. of the cases of hysteria and compulsion neuroses the father had lues or tabes and general paresis. The varieties of congenital syphilis were classified according to physical signs, serological reactions, and family history as follows: (*a*) Those with a Wassermann positive in the cerebro-spinal fluid, *e.g.* juvenile paresis and tabes. (*b*) Those with negative cerebro-spinal fluid, *e.g.* hydrocephalus, epilepsy and optic atrophy. (*c*) Those with a positive Wassermann in the blood and with definite physical stigmata. (*d*) Those with a positive blood, but without physical stigmata. (*e*) Those with definite physical stigmata, but with a negative blood. (*f*) Those without stigmata and with a negative blood, but with a definite history of parental infection, or of numerous still-births and abortions. Sixty syphilitics diagnosed under the above heading were compared with 60 non-syphilitics. The average age was the same in both—10·3 years. The syphilitic were equal in intelligence as measured by the Binet scale to normal children of 6·2 years, the non-syphilitic to those of 7 years. Therefore the deficiency among the former was 4·1 years, as compared with 3·3 years of the latter. Syphilis accounted for 29 cases of feeble-mindedness, other causes for 25. Nineteen

cases of retardation were assigned to lues, and 12 to causes other than syphilis. Defects in speech were nine times as common among the syphilitic, and visual defects twice as common. Mental processes were classified under the following headings: Receptivity, Imagination, Affectivity, and Thought, the latter including reasoning, judgment, and comprehension. The following were the numbers of syphilitic and non-syphilitic affected under each heading:

	Syphilitic.	Non-syphilitic.
Receptivity	25	16
Imagination	22	19
Affectivity	24	29
Thought	19	17

Plural defects under these headings were noted in 33 of the luetic and 27 of the non-infected. The cases were also investigated as regards delinquency, which included truancy, mendacity, sex offences, larceny, disorderly conduct, assault, and arson. Forty-eight of the syphilitic, but only 39 of the non-syphilitics, had been convicted under one or other of these offences. The before and after picture where syphilitic infection makes its appearance is interesting. The earlier children were bright; then parental syphilis ensued, and feeble-minded and retarded children were born, and others affected with cerebro-spinal syphilis, general paresis, and tabes.

CHRISTOPHER ROLLESTON.

The spinal fluid in Mongolian idiocy (*'Journ. Amer. Med. Assoc.,'* 1916, LXVI, *p.* 1373).—**H. C. Stevens** records his investigations in a further series of eighteen Mongolian idiots, which confirm his original opinion that the condition is one of the manifestations of congenital syphilis (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1915, XII, *p.* 255). In the second series the Wassermann reaction was positive on the blood-serum in six cases and on the spinal fluid in two. The globulin content was increased and the gold-chloride reaction was present in all, the colour-changes of the latter being typical of cerebro-spinal syphilis.

T. R. WHIPHAM.

Reviews.

ABNORMAL CHILDREN (NERVOUS, MISCHIEVOUS, PRECOCIOUS, AND BACKWARD), A BOOK FOR PARENTS, TEACHERS, AND MEDICAL OFFICERS OF SCHOOLS. By BERNARD HOLLANDER, M.D. 1916. London: Kegan Paul, Trench, Trubner & Co., Ltd. Pp. 224. Illustrated with photographs. Price 3s. 6d. net.

To quote from the Preface: "This book deals with the nervous defects of children, and the various forms and degrees of mental and moral deficiency that may occur from infancy up to the age of twenty-one. It deals not merely with the deeper grades . . . but also with those minor defects of mind and conduct, to which all children are liable, and which, if not avoided or corrected by careful training, influence their whole career in life." Furthermore, it deals with the precocious and the talented child, and shows that if special instruction were provided in accordance with the individual aptitudes for children of unusual inborn ability, both the State and the individual would be benefited. The author's object is to show that the education of

children of all degrees of intelligence is a problem not for parents and teachers only, but that the co-operation of the medical psychologist is an absolute necessity. He it is who can not only demonstrate how to counteract the effects of evil heredity, bad environment, and disease, but can also advise as to the education and pursuits of precocious and gifted children.

Dr. Hollander's descriptions of the various mental abnormalities and nervous disorders, which occur in children, are carefully thought out and can readily be recognised by the lay reader. Illustrations of the different types of children, moreover, serve to emphasise the descriptions in the text. The writer gives some sound advice as to the general and moral education of both normal and abnormal children, and lays stress upon the value of "suggestion" in cases of moral delinquency and of nervous disturbance.

The book will be found well suited for its purpose, but contains one or two inaccuracies, *e. g.* the statement is made (p. 32) that the brain of a hydrocephalic child "may weigh as much as seventy ounces." This is evidently intended to include the weight of the contained fluid, but as it stands is misleading. Again, on p. 167 we find it stated that "the bones of the skull are very thin until the age of puberty, *i. e.* about a line in thickness." Further, *fœto* is not the ablative of *fœtus*, and women are not admitted to degrees at Oxford and Cambridge as the author seems to imagine.

T. R. W.

Transactions of the American Pediatric Society. Twenty-seventh Session. Edited by Linnæus La Fétra, M.D. Vol. XXVII. Chicago: American Medical Association Press.

The present volume contains much interesting matter. The presidential address of Dr. George Acker is a model of conciseness, and deals very effectively with the difficulties of "Present-day Problems in Pediatrics." "Too much attention," he urges, "has been devoted to an attempt to destroy infectious material at the expense of a building up of individual resistance by good food and proper hygiene," a conclusion which may be urged in criticism of many of our own methods of campaign at the present time. Of thirty-two papers, eleven deal with some point connected with the feeding of infants and the metabolism of foodstuffs. Perhaps the most important of these is the elaborate study of the metabolism of a two-months-old infant fed upon varying proportions of cow's milk protein, by Dr. Hoobler, working at Cornell, and the chemical study of women's milk, especially in its inorganic constituents, by Professor Holt and his assistants. Drs. Porter and Drew record an investigation of the tolerance of infants for large quantities of maltose and lactose. With very large quantities of sugar they achieved a rapid gain in weight, and dyspepsia and green stools did not appear until a very late stage. They regard these observations as opposed to the teaching of Finkelstein. It is stated, however, that no infant known to have a low tolerance for carbohydrate was experimented upon, and that the majority were comparatively mild cases of fat intolerance, with excess of fat in the stools—that is to say, cases in which the usual treatment is the prescription of carbohydrates. In no case, presumably, was the excess of sugar continued after diarrhœa had set in, so that the further stages of sugar intoxication could not be expected to develop.

The papers upon subjects other than dietetic are perhaps generally of less interest, but they include an elaborate report of a Committee on Vaginitis in Childhood.

H. C. C.